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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,179

12/01/2003

John A. Agostinelli

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03/04/2005

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EXAMINER

MAHONEY, CHRISTOPHER E

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,179

Applicant(s)

AGOSTINELLI, JOHN A.

Examiner

Christopher E. Mahoney

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-32, 34-40, 42 and 43 is/are rejected.
- 7) ☒ Claim(s) 10, 33 and 41 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date Dec 1, 2003
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 16-18, 20, 22, 34, 37, 38, and 42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (U.S. Patent No. 6,789,903) in view of Hong (U.S. Patent No. 6,799,850). Parker teaches a projection apparatus for forming an image frame on a display surface, wherein the image frame comprises a two-dimensional array of pixels, the apparatus comprising: a projector 3 for directing an image-bearing beam toward the display surface, a camera 7 for obtaining a sensed pixel array by sensing the two dimensional array of pixels of the image frame formed on the display surface by said image-bearing beam; (c) a control logic processor 21 for comparing said sensed pixel array 15 with corresponding said image data 10 for the image frame to identify any portion of said image-bearing beam that is obstructed from the display surface and for disabling pixels 20 within said obstructed portion of said image-bearing beam for at least one subsequent image frame. A radiation source 6 directed towards the display surface provides the reflected light. The applicant is directed to review figures 1-3 as well as col. 1, lines 9-20 and lines 43-47, and col. 2, lines 35-46. Parker does not teach that the projector comprises a plurality of imaging laser light sources with each laser having an imaging wavelength and comprising: (i) a laser light source; (ii) an image modulator for modulating said laser light source to form said image-bearing beam, according to image data. Hong teaches a

Art Unit: 2851

plurality of imaging laser light sources (red laser, green laser blue laser in figures 2-3) with each laser having an imaging wavelength (red, green and blue) and an image modulator 280 for modulating said laser light source to form said image-bearing beam according to image data. The image modulator may be an LCD or DMD (col. 5, lines 19-24). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Hong for the purpose of improving light efficiency.

Claims 1, 3, 5, 11, 13, 26, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (U.S. Patent No. 6,789,903) in view of Hong (U.S. Patent No. 6,799,850). Parker in view of Hong teaches the salient features of the claimed invention except for using the projected image light or "image bearing beam" as the sensed light pattern. The method of distinguishing a difference in projected pattern is already taught. The only difference is one is IR and the other is visible light. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the projected light instead of infrared for the purpose of reducing the number of parts. This can be used both for size and economics.

Claims 2, 12, 19, 21, 28, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (U.S. Patent No. 6,789,903) in view of Hong (U.S. Patent No. 6,799,850) as applied to the preceding rejected claims, and further in view of Allen (U.S. Patent No. 6,811,267). Parker in view of Hong teaches the salient features of the claimed invention except for a grating light valve and utilizing ambient light. Allen teaches in col. 2, lines 30-31 that it was known to utilize a GLV in an image projector. Allen teaches in col. 5, lines 62-66 that it was known to utilize the change in ambient light levels during projection to optimization. The examiner notes that Allen also discusses the use of multiple wavelength lasers. It would

Art Unit: 2851

have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Allen for the purpose of a providing a modulator with a large active area while maintaining a fast response time as well as for optimization.

Claims 4, 23, 27, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (U.S. Patent No. 6,789,903) in view of Hong (U.S. Patent No. 6,799,850) as applied to the preceding rejected claims, and further in view of Kowarz (U.S. Patent No. 6,411,425). Parker in view of Hong teaches the salient features of the claimed invention except for a grating electromechanical system. Kowarz teaches GEMs 85 in an image projector as well as a scanning mirror 77. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Kowarz for the purpose of a creating a simpler and less costly system.

Claims 8, 31, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (U.S. Patent No. 6,789,903) in view of Hong (U.S. Patent No. 6,799,850) as applied to claims 1, 3, 5, 11, 13, 16-18, 20, 22, 26, 29, 30, 34, 37, 38, 42 and 43, and further in view of Hewlitt (U.S. Patent No. 6,126,288). Parker in view of Hong teaches the salient features of the claimed invention except for tracking the motion of the person. Hewlitt teaches in figures 5, 6, 8A, 8C and 10 that it was known to track the motion of a subject in a projected light path. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Hewlitt for the purpose of enabling motion within a selective illumination field.

Claims 9, 32, and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (U.S. Patent No. 6,789,903) in view of Hong (U.S. Patent No. 6,799,850) and Hewlitt

Art Unit: 2851

(U.S. Patent No. 6,126,288) as applied to claims 8, 31, and 39, and further in view of Khosravi (U.S. Patent No. 6,184,926). Parker in view of Hong and Hewlitt teaches the salient features of the claimed invention except for tracking the person by facial recognition. Khosravi teaches in col. 1 as well as col. 2, lines 3-6 that it was known to use facial recognition in multimedia applications (col. 1, line 24 for example). It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Khosravi for the purpose of improved, real time tracking.

Claims 6-7, 14-15, and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Parker (U.S. Patent No. 6,789,903) in view of Hong (U.S. Patent No. 6,799,850) as applied to claims 1, 3, 5, 11, 13, 16-18, 20, 22, 26, 29, 30, 34, 37,38, 42 and 43, and further in view of Olbrich (U.S. Patent No. 6,840,627). Parker in view of Hong teaches the salient features of the claimed invention except for specifically reciting a CCD or CMOS camera. Olbrich teaches in col. 2, lines 18-20 that the image sensor may be a CCD or CMOS camera. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the features taught by Olbrich for the purpose of utilizing commercially available products/materials.

Allowable Subject Matter

Claims 10, 33, and 41 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher E. Mahoney whose telephone number is (571) 272-2122. The examiner can normally be reached on 8:30AM-5PM, Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on (571) 272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher E Mahoney
Primary Examiner
Art Unit 2851